

Missouri Department of Natural Resources

## Total Maximum Daily Load Information Sheet

### Creve Coeur Lake

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#### Waterbody Segment at a Glance:

**County:** St. Louis  
**Nearby Cities:** Maryland Heights  
**Area of impairment:** 300 Acres  
**Pollutant:** Chlordane  
**Source:** Urban nonpoint runoff

**Proposed for deletion on the 2002 303(d) list**

**TMDL Priority Ranking:** Low



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#### Description of the Problem

##### Beneficial uses of Creve Coeur Lake

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life and Human Health associated with Fish Consumption
- Boating and Canoeing

##### Use that is impaired

- Protection of Warm Water Aquatic Life and Human Health associated with Fish Consumption

##### Standards that apply

- The action level for chlordane in fish tissue, established by the U.S. Food and Drug Administration (FDA), is 0.3 milligrams per kilogram (mg/kg). Note: 1 kilogram = 2.2 pounds.

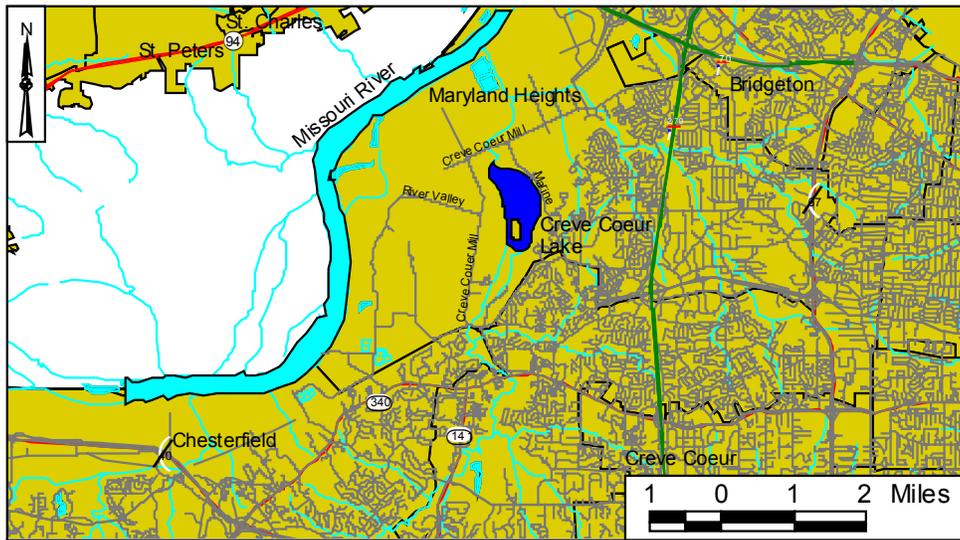
Creve Coeur Lake is a natural oxbow lake formed by the Missouri River. It is reportedly the largest natural lake in Missouri and sits in the middle of a thousand-acre county park. The lake was used as a source of ice in the 1800s and has historically been used for recreation. Today it is used for boating (non-gasoline boats only) and fishing. No swimming is allowed.

Chlordane is a pesticide that was commonly used in the past for termite control. It was also used at nurseries, on golf courses and in agriculture. Chlordane was banned for agricultural use in 1975 and all uses in 1988, but it degrades very slowly and bio-accumulates in fish tissue, particularly in bottom-dwelling/feeding fish. This is because it is not soluble in water, but binds to the soil. The highest levels found in Creve Coeur Lake occur in channel catfish and carp. Human exposure to chlordane has been associated with liver cancer and nervous system disorders. In the years since chlordane was banned, chlordane levels in fish tissue from carp in Creve Coeur Lake have declined.

Since chlordane is banned and degrades slowly, there is little (besides dredging, which brings up disposal problems) that can be done to improve the situation other than let nature take its course.

In 1985, the Missouri Department of Conservation issued a fish consumption advisory for bottom-feeding fish in Creve Coeur Lake. This was discontinued July 9, 2001 because chlordane levels in these fish had fallen below the FDA action level of 0.3 mg/kg. The TMDL recommends continued monitoring of chlordane levels in Creve Coeur Lake. The U.S. Environmental Protection Agency approved this TMDL November 19, 2001. Data and a map of the area may be found below.

### Map of Creve Coeur Lake



### Chlordane Concentration in Fish Tissues in Creve Coeur Lake (mg/kg)

Year	Bluegill	Carp	Channel Catfish	Largemouth Bass	White Crappie
1985	0.056	0.71	0.485	0.017	0.037
1987	0.005	0.379	0.75	0.217	
1988		0.61	1.229		
1994		0.869			
1997		0.416			
1998		0.081			
2000		0.028			

Sources: U.S. Environmental Protection Agency, Missouri Department of Natural Resources, Missouri Department of Conservation

**For more information call or write:**

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